Serial Number: 09/876,645 Filing Date: June 7, 2001

Title: FAULT-TOLERANT SYSTEM AND METHODS WITH TRUSTED MESSAGE ACKNOWLEDGMENT (As Amended)

Assignee: Intel Corporation

IN THE CLAIMS

The claims are reproduced here for the Examiner's convenience. No claims are canceled, amended, or added by way of this amendment.

1. (Original) A method to be performed by a data processing system comprising:

providing distributed queuing of workflows, whose execution is requested by one or
more execution-requesting clients, among a plurality of workflow engines; and

if a workflow is completed by a first workflow engine for an execution-requesting client, sending an explicit and delayed acknowledgement to the execution-requesting client, else assigning the workflow to a second workflow engine.

- 2. (Original) The method recited in claim 1, wherein providing is performed by a load manager.
- 3. (Original) The method recited in claim 2, wherein the load manager comprises a commercially available middleware product.
- 4. (Original) The method recited in claim 1, wherein the explicit and delayed acknowledgement is performed by a certified messaging capability.
- 5. (Original) The method recited in claim 4, wherein the certified messaging capability is performed by a load manager.
- 6. (Original) The method recited in claim 4, wherein the load manager comprises a commercially available middleware product.
- 7. (Original) The method recited in claim 4, wherein the certified messaging capability is performed by a certified message receiver forming part of the workflow.

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Title: FAULT-TOLERANT SYSTEM AND METHODS WITH TRUSTED MESSAGE ACKNOWLEDGMENT (As Amended)

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8. (Original) The method recited in claim 4 and further comprising:

the certified messaging capability sending an explicit and delayed acknowledgement to the execution-requesting client if the workflow is completed by the second workflow engine.

9. (Original) A method to be performed by a computer network comprising a plurality of clients and a plurality of workflow engines:

providing distributed queuing of workflows, whose execution can be requested by one or more execution-requesting clients, among the plurality of workflow engines; and

determining whether a workflow has been completed by a first workflow engine on behalf of an execution-requesting client; and

if so, sending an explicit and delayed acknowledgement to the execution-requesting client;

otherwise, assigning the workflow to a second workflow engine.

- 10. (Original) The method recited in claim 9, wherein providing is performed by a load manager.
- 11. (Original) The method recited in claim 10, wherein the load manager comprises a commercially available middleware product.
- 12. (Original) The method recited in claim 9, wherein sending is performed by a certified messaging capability.
- 13. (Original) The method recited in claim 12, wherein the certified messaging capability is performed by a load manager.
- 14. (Original) The method recited in claim 12, wherein the load manager comprises a commercially available middleware product.

Title: FAULT-TOLERANT SYSTEM AND METHODS WITH TRUSTED MESSAGE ACKNOWLEDGMENT (As Amended)

Assignee: Intel Corporation

15. (Original) The method recited in claim 12, wherein the certified messaging capability is performed by a certified message receiver in the workflow.

16. (Original) The method recited in claim 12 and further comprising:

the certified messaging capability sending an explicit and delayed acknowledgement to the execution-requesting client if the workflow is completed by the second workflow engine.

17. (Original) A computer adapted for use in a computer network comprising a plurality of workflow engines, the computer executing a computer program, the computer program operating the computer in a fault-tolerant manner and comprising the operations of:

requesting a workflow execution on behalf of a client;

a distributed queuing capability assigning the workflow execution to a first workflow engine;

determining whether the workflow execution has been completed by the first workflow engine; and

if so, sending an explicit and delayed acknowledgement to the client; otherwise, assigning the workflow execution to a second workflow engine.

- 18. (Original) The computer recited in claim 17, wherein requesting is performed by a load manager.
- 19. (Original) The computer recited in claim 17, wherein sending is performed by a certified messaging capability.
- 20. (Original) The computer recited in claim 19, wherein the certified messaging capability is performed by a certified message receiver in the first workflow engine.
- 21. (Original) The computer recited in claim 19 and further comprising:

the certified messaging capability sending an explicit and delayed acknowledgement to the client if the workflow execution is completed by the second workflow engine.

Title: FAULT-TOLERANT SYSTEM AND METHODS WITH TRUSTED MESSAGE ACKNOWLEDGMENT (As Amended)

Assignee: Intel Corporation

- 22. (Previously Presented) A computer network comprising:
 - a plurality of clients;
 - a plurality of workflow engines; and
- at least one computer program, the computer program operating in a fault-tolerant manner and performing the operations of:

requesting a workflow execution on behalf of a client;

assigning the workflow execution to a first workflow engine;

determining whether the workflow execution has been completed by the first workflow engine; and

if so, sending an explicit and delayed acknowledgement to the client; otherwise, assigning the workflow execution to a second workflow engine.

- 23. (Previously Presented) The computer network recited in claim 22, wherein requesting is performed by a load manager having a distributed queuing capability.
- 24. (Original) The computer network recited in claim 22, wherein sending is performed by a certified messaging capability.
- 25. (Original) The computer network recited in claim 24, wherein the certified messaging capability is performed by a certified message receiver in the first workflow engine.
- 26. (Original) The computer network recited in claim 24 and further comprising: the certified messaging capability sending an explicit and delayed acknowledgement to the client if the workflow execution is completed by the second workflow engine.

Title: FAULT-TOLERANT SYSTEM AND METHODS WITH TRUSTED MESSAGE ACKNOWLEDGMENT (As Amended)

Assignee: Intel Corporation

27. (Original) A computer-readable medium containing computer instructions for instructing a processor, the processor adapted for use in a computer network comprising a plurality of workflow engines, wherein the instructions comprise:

requesting a workflow execution on behalf of a client;

a distributed queuing capability assigning the workflow execution to a first workflow engine;

determining whether the workflow execution has been completed by the first workflow engine; and

if so, sending an explicit and delayed acknowledgement to the client; otherwise, assigning the workflow execution to a second workflow engine.

- 28. (Original) The computer-readable medium recited in claim 27, wherein requesting is performed by a load manager.
- 29. (Original) The computer-readable medium recited in claim 27, wherein sending is performed by a certified messaging capability.
- 30. (Original) The computer-readable medium recited in claim 29, wherein the certified messaging capability is performed by a certified message receiver in the first workflow engine.
- 31. (Original) The computer-readable medium recited in claim 29 and further comprising: the certified messaging capability sending an explicit and delayed acknowledgement to the client if the workflow execution is completed by the second workflow engine.

Title: FAULT-TOLERANT SYSTEM AND METHODS WITH TRUSTED MESSAGE ACKNOWLEDGMENT (As Amended)

Assignee: Intel Corporation

32. (Previously Presented) An article comprising a machine-accessible medium having instructions for instructing a processor forming part of a plurality of workflow engines, wherein the instructions, when accessed, result in a machine performing:

requesting a workflow execution on behalf of a client;

assigning the workflow execution to a first workflow engine;

determining whether the workflow execution has been completed by the first workflow engine; and

if so, sending an explicit and delayed acknowledgement to the client; otherwise, assigning the workflow execution to a second workflow engine.

- 33. (Previously Presented) The article recited in claim 32, wherein requesting is performed by a load manager having a distributed queuing capability.
- 34. (Previously Presented) The article recited in claim 32, wherein sending is performed by a certified messaging capability.
- 35. (Previously Presented) The article recited in claim 34, wherein the certified messaging capability is performed by a certified message receiver in the first workflow engine.
- 36. (Previously Presented) The article recited in claim 34 and further comprising: the certified messaging capability sending an explicit and delayed acknowledgement to the client if the workflow execution is completed by the second workflow engine.